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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,377	10/30/2000	Toshikazu Nakamura	Q 61434	7003

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Sughrue Mion Zinn Macpeak & Seas
2100 Pennsylvania Avenue NW
Washington, DC 20037-3202

EXAMINER	
SPECTOR, LORRAINE	

ART UNIT	PAPER NUMBER
1647	

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/674,377	NAKAMURA, TOSHIKAZU	
	Examiner	Art Unit	
	Lorraine Spector, Ph.D.	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 19-37* is/are pending in the application.

4a) Of the above claim(s) *8,11,16,27 and 37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,10,12-16,19-26 and 28-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-16 and 19-37* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/00,11/04,10/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-16 and 19-37 are pending.

Election/Restrictions

Applicant's election without traverse of the species "cancer" in the reply filed on 11/4/2005 is acknowledged. Applicants have indicated all claims except claims 27 and 37 as corresponding to the elected species. The Examiner disagrees, and finds that claims 8, 11, and 16 also do not correspond to the elected species. Accordingly, claims 1-7, 9, 10, 12-15, 19-26 and 28-36 are under consideration.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 4/28/1998. It is noted, however, that applicant has not filed a certified copy of the JPO application as required by 35 U.S.C. 119(b).

Drawings

The drawings are objected to because figures 1B, 9, 10 and 12B are of inadequate quality for publication. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because of the following informalities:

a) The entire specification should be reviewed for spelling and grammatical errors. For example, the word "endothelial" is misspelled at page 13/3.

Appropriate correction is required.

A substitute specification excluding the claims is required pursuant to 37 CFR 1.125(a) because the pages in the specification are not numbered consecutively.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Claim Objections

37 C.F.R.§1.821(d) reads as follows:

> (d) Where the description or claims of a patent application discuss a sequence listing that is set forth in the "Sequence Listing" in accordance with paragraph (c) of this section, reference must be made to the sequence by use of

the assigned identifier, in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application.

The claims and/or specification are not in full compliance with 37 C.F.R.§1.821(d), and should be amended to refer to the appropriate sequence identifier(s) (SEQ ID NO:). For example, see claims 1-2, 12-15, 28, 31, and 34, and page 30 of the specification. Correction is required.

Claims 28, 31 and 34 are objected to because the word "hepatocyte" is misspelled. Correction is required.

Claim Interpretation

The use of the words "motogen" and "motogenic" in the specification is noted Examiner notes a definition of such in the art at http://cancerweb.ncl.ac.uk/cgi-bin/omd?motogenm which defines motogen as (A) Term proposed for substances that stimulate cell motility by analogy with those that stimulate cell division (mitogens). Hepatocyte growth factor is an example, though it seems likely that factors may be motogens for some cells and mitogens for others and may be motogens, mitogens or both depending upon the local conditions in which the cell is operating. (18 Nov 1997).

It is noted that numerous of the composition claims recite intended uses in the preamble (e.g. "A neovascularization inhibitor"). The Examiner notes that such intended uses are given full weight in consideration of enablement of the claimed invention. However, in consideration of the prior art, such intended uses are only given weight insofar as the prior art composition must be *consistent* with such use; the actual use does not have to have been contemplated by the prior art reference.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim reads on a product of nature.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 9, 10, 12-15, 19-26 and 28-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims which refer to amino acid residues by number without reference to a SEQ ID NO:, such as claims 1-2, 12-15, 28, 31, and 34, are indefinite. Numbering is not inherent to a protein. For example, the residue referred to by applicants as "PyrGlu^{32}" is actually the first residue of the mature HGF protein, and thus referred to in the art as residue 1. Further, when the residue *is* at position 32, it is not PyrGlu, but rather glutamine, as the modification to become PyrGlu occurs *after* cleavage of the 31 amino acid leader sequence. Also, the recitation "PyrGlu^{32}~Val^{478}" is further indefinite because it is internally inconsistent: If one is numbering so that the PyrGlu is at residue 32, then the valine in question would be at residue 509, not residue 478. It is only if one numbers the PyrGlu as residue 1 (of the mature protein) that there occurs a valine at position 478, and only (insofar as the Examiner can determine) with reference to human and mouse HGF. Finally, the recitation "PyrGlu^{32}~Val^{478}" is further indefinite because the use of the tilde "~" to show a range of amino acids is not standard in the art, and might mean either a definite fragment consisting of residues 32-478, or alternatively a fragment that comprises from residue 32 to "approximately" residue 478, as the mathematical use of the tilde is to denote an approximation. Accordingly, the metes and bounds of the claims cannot be determined.

Claims 1, 2, 12-15, 28, 31 and 34 are further indefinite because they include "deletion, substitution or addition of one or more amino acids" with no upper limit on the number of such modifications, such that the claims are essentially single means claims, and one cannot determine whether a given molecule is or is not within the scope of the claims.

Claims 7, 9, 10, 22, 24, 26 are indefinite because it is not clear what further limitation is implied by the recitation of intended use as affecting the nature of the claimed composition. As the only recited components of the composition are a protein and a carrier, it is not clear how the scope of the dependent claims differs from that of the claims on which they depend.

Claim 22 is indefinite because the meaning of the entire remainder of the claim following "Claim 21" is unclear.

Claim 24 is indefinite as there is no antecedent basis in claim 23 for a "tumor".

Claim 33 is indefinite as there is no antecedent basis in claims 31 or 32 for "prophylaxis or therapy" nor, apparently, for the phrase "wherein tumor is...".

The remaining claims are rejected for depending from an indefinite claim.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 12-15, 28, 31 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 2, 12-15, 28, 31 and 34 lack adequate written description because they include "deletion, substitution or addition of one or more amino acids" with no upper limit on the number of such modifications, such that the claims are essentially single means claims. The specification discloses a single HGF molecule, SEQ ID NO: 1, and a single mutein of SEQ ID

NO: 1 lacking five amino acids, SEQ ID NO: 2. HGF is well known in the art. However, the claims do not require any conserved structure, but merely require that the "derived" sequence share function with the disclosed proteins. The specification provides no specific guidance as to what changes can be made in HGF within the scope of the claims.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116).

With the exception of the sequences referred to above, the skilled artisan cannot envision the detailed chemical structure of the encompassed polynucleotides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The nucleic acid itself is required. See Fiers v. Revel, 25 USPQ2d 1601 at 1606 (CAFC 1993) and Amgen Inc. v. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016.

One cannot describe what one has not conceived. See Fiddes v. Baird, 30 USPQ2d 1481 at 1483. In Fiddes, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only SEQ ID NO: 1 and 2, and HGF comprising residues 1-478 of art-recognized HGF, but not the full breadth of the claim meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that Vas-Cath makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Claims 7, 9, 10, 14, 15, 21, 22, 25, 26, 28-30 and 33-36 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for compositions for and methods of antagonizing HGF to inhibit or treat neovascularization, including inhibition of tumor growth

or metastasis, does not reasonably provide enablement for prophylaxis. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

The factors considered when determining if the disclosure satisfies the enablement requirement and whether any necessary experimentation is "undue" include, but are not limited to:

1) nature of the invention, 2) state of the prior art, 3) relative skill of those in the art, 4) level of predictability in the art, 5) existence of working examples, 6) breadth of claims, 7) amount of direction or guidance by the inventor, and 8) quantity of experimentation needed to make or use the invention. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

The nature of the invention is a variant of HGF that acts as an antagonist. The claims encompass prevention of neovascularization, cancer and metastasis. The state of the prior art, as discussed in the rejections below, is that the particular HGF antagonist was known, and it was known to use HGF antagonists to *treat* cancer, or inhibit neovascularization. Although the relative skill in the art of cancer *treatment* is constantly evolving, it is not accepted in the art that one can reliably predict who will *develop* cancer, and thus, the art of cancer *prophylaxis* is in it's infancy, and generally limited to cases where a particular gene has been identified as being causative, such as the BRCA genes. Even then, the prophylaxis usually consists of removal of the putatively affected tissue. It is not accepted in the art to administer angiogenesis inhibitors for the prevention of cancer. There are no working examples in the specification in which this was done, nor guidance as to how to select patients for such treatment. Accordingly, the Examiner concludes that the specification is not enabling of claims to prophylaxis of diseases associated with abnormal angiogenesis or angiopoiesis or neovascularization, nor, in fact, for the prophylaxis of *any* disease.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-5, 7, 9, 10, 12-15, 28-32 and 34-36 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,855,685. Although the conflicting claims are not identical, they are not patentably distinct from each other. The patented claims are drawn to a pharmaceutical composition claimed to be an anti-cancer agent and comprising SEQ ID NO: 1, and a method of inhibiting metastasis. SEQ ID NO: 1 of the patent differs from SEQ ID NO: 1 of the instant application in having glutamine as the first residue, instead of the PyrGlu disclosed herein. However, as discussed above, the modification of, glutamine to PyrGlu is a post-translational modification that would be inherent to the protein disclosed and claimed in the patent, as the patented protein would actually have the sequence of the claimed protein when produced as disclosed in the patent.

Claims 6-7, and 19-26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,855,685 in view of Nakamura et al., EP 0461560, cited by applicants.

The teachings of the patent are summarized above. The rejected claims, which are specific to SEQ ID NO: 2, differ from the disclosure of the patent in that SEQ ID NO:2 has a deletion of 5 amino acids relative to the protein of SEQ ID NO: 1.

Nakamura et al., disclose a variant of HGF comprising the same 5 amino acid deletion relative to SEQ ID NO: 1 as found in SEQ ID NO: 2, see Figure 3 and claim 3. They disclose the protein having that 5 amino acid deletion to have HGF activity, and thus to be able to bind to HGF receptors.

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to substitute the protein of Nakamura et al. in the teachings of the patented claims to produce an HGF inhibitor having the 5 amino acid deletion taught by Nakamura et al., to be used in pharmaceutical compositions as an HGF antagonist, as taught by the patented claims. The person of ordinary skill in the art would have been motivated to do so by Nakamura's implicit teachings that the deleted protein was considered to be functionally equivalent to the other form of HGF, and would have expected success for the same reason. Accordingly, the invention, taken as a whole, is *prima facie* obvious over the patented claims, and a finding of obviousness-type double patenting is proper.

Priority

Priority is set at 4/6/99, pending perfection of the foreign priority claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Date et al., FEBS Lett. 420:1-6, cited by applicants.

Date discloses HGF variant HGF/NK4, which is the same molecule as SEQ ID NO: 1 of the instant application. The protein was used to examine the mitogenic activity on rat hepatocytes in primary culture (page 4 and Figure 3), and thus would necessarily have been in a pharmaceutically acceptable formulation. Accordingly, the claims are anticipated by Date et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-7, and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Date et al. in view of Nakamura et al., EP 0461560, cited by applicants.

The teachings of Date et al. are summarized above. The claims, which are specific to SEQ ID NO: 2, differ from the disclosure of Date et al. in that SEQ ID NO:2 has a deletion of 5 amino acids relative to the protein of SEQ ID NO: 1.

Nakamura et al., disclose a variant of HGF comprising the same 5 amino acid deletion relative to SEQ ID NO: 1 as found in SEQ ID NO: 2, see Figure 3 and claim 3. They disclose the protein having that 5 amino acid deletion to have HGF activity, and thus to be able to bind to HGF receptors.

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to substitute the protein of Nakamura et al. in the teachings of Date et al. to produce an HGF inhibitor having the 5 amino acid deletion taught by Nakamura et al., to be used in pharmaceutical compositions as an HGF antagonist, as taught by Date et al. The person of ordinary skill in the art would have been motivated to do so by Nakamura's implicit teachings that the deleted protein was considered to be functionally equivalent to the other form of HGF, and would have expected success for the same reason. Accordingly, the invention, taken as a whole, is *prima facie* obvious.

Claims 12-15 and 28-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwall et al., U.S. Patent No. 6,207,152 (priority date 2/17/1998) in view of Date et al.

Schwall et al. teach the treatment of various cancers with HGF antagonist antibodies (see claims). In the detailed description at paragraph 23, they teach:

> The terms "cancer" and "cancerous" when used herein refer to or describe the physiological condition in mammals that is typically characterized by unregulated cell growth. Examples of cancer include but are not limited to, carcinoma, lymphoma, sarcoma, blastoma and leukemia. More particular examples of such cancers include squamous cell carcinoma, lung cancer (small cell and non-small cell), gastrointestinal cancer, liver cancer, kidney cancer, pancreatic cancer, cervical cancer, bladder cancer. hepatoma, breast cancer, colon carcinoma, and head and neck cancer. While the term "cancer" as used herein is not limited to any one specific form of the disease, it is believed that the methods of the invention will be particularly effective for cancers which are found to be accompanied by increased levels of HGF or overexpression or activation of HGF receptor in the mammal.

Schwall et al. do not teach a method in which a derivative of HGF is used as the antagonist.

The teachings of Date et al. are summarized above. In addition to the above teachings, Date teaches in the introduction that HGF is known in the art to be a pleiotrophic growth factor that targets epithelial and endothelial cells, to be involved in branching tubular morphogenesis,

tumor invasion, and to stimulate neovascularization in tumors. Date teaches at page 6 that the protein "may have therapeutic potential to prevent invasion and metastasis of various carcinoma cells." Accordingly, It would have been obvious to the person of ordinary skill in the art at the time the invention was made to use the protein of Date et al. to treat cancer or any other medical condition in which neovascularization is a problem, in view of Schwall's teachings, and would have expected success in view of Date's teachings that the protein is an effective HGF antagonist, taken with Schwall's teachings of treating a wide variety of cancers with HGF inhibitors. Accordingly, the invention, taken as a whole, is *prima facie* obvious.

Conclusion

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Lorraine M. Spector. Dr. Spector can normally be reached Monday through Friday, 9:00 A.M. to 3:00 P.M. at telephone number 571-272-0893.

If attempts to reach the Examiner by telephone are unsuccessful, please contact the Examiner's supervisor, Ms. Brenda Brumback, at telephone number 571-272-0961.

Certain papers related to this application may be submitted to Technology Center 1600 by facsimile transmission The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Official papers filed by fax should be directed to **571-273-8300**. Faxed draft or informal communications with the examiner should be directed to ***571-273-0893.***

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lorraine Spector, Ph.D.
Primary Examiner